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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-07-30-11** **Date: 02-08-18** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to main and cross roads at Babanna Layout back side area chikkasandra in Ward No. 12 Shettyhalli sub division. |
| **Agency** | : | Technical Manager (West), KRIDL,Project Implementation Unit, No.580, Sree Shivakumara Swamy Nilaya, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore- 560010 |
| **Customer's Reference** | : | BBMP/EE/DD/WO/157/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 30-07-18 |
| **Sample ID No** | : | 2018-07-30-11 /01 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 (Part 1,2 3,4,5, 6,11):1988<br>IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4<br>IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5<br>IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5<br>IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6 |
| **Date of test** | : | 31-07-18 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

| Sl.No. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | Fineness by dry sieving (%) | 1.1 | – |
| 2 | Finess by Air permeablity method ($m^2$/kg,Min) | 297.4 | 225$m^2$/kg, Min |
| 3 | Density (gm/cc) | 3.14 | – |
| 4 | Standard Consistency (%) | 0.285 | Not specified |
| 5 | Initial Setting time (minutes) | 175 minutes | Not less than 30 minutes |
| 6 | Final Setting time (minutes) | 285 minutes | Not more than 600 minutes |
| 7 | Soundness (Le Chatelier's Method) (mm) | 1.5mm | Not more than 10 mm |

**Note:**

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ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬ ...ರು

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager


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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-07-30-11** **Date: 02-08-18** |
| **Customer** | : | Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore |
| **Address** | : | Shettyhalli Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to main and cross roads at Babanna Layout back side area chikkasandra in Ward No. 12 Shettyhalli sub division. |
| **Agency** | : | Technical Manager (West), KRIDL,Project Implementation Unit, No.580, Sree Shivakumara Swamy Nilaya, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore- 560010 |
| **Customer's Reference** | : | BBMP/EE/DD/WO/157/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample condition** | : | Satisfactory |
| **Date of Receipt** | : | 30-07-18 |
| **Sample ID No** | : | 2018-07-30-11 /02(a) |
| **Sample Type** | : | 40mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 30-07-18 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:**

**Total weight taken : 15000 grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 80 mm | 0 | 0 | 0.0 | 100 | 100 |
| 2 | 40 mm | 1173 | 1173 | 7.8 | 92.2 | 90-100 |
| 3 | 20 mm | 5824 | 6997 | 46.6 | 53.4 | 30-70 |
| 4 | 10 mm | 4729 | 11726 | 78.2 | 21.8 | 10-35 |
| 5 | 4.75 mm | 2546 | 14272 | 95.1 | 4.9 | 0-5 |
| 6 | Pan | 728 | 15000 | 100.0 | 0 | --- |

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ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು



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# TEST REPORT OF FINE AGGREGATE

**Lab ID** : **CP-2018-07-30-11** **Date: 02-08-18**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore

**Address** : Shettyhalli Sub Division, BBMP, Bangalore

**Project Name** : Improvements to main and cross roads at Babanna Layout back side area chikkasandra in Ward No. 12 Shettyhalli sub division.

**Agency** : Technical Manager (West), KRIDL,Project Implementation Unit, No.580, Sree Shivakumara Swamy Nilaya, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore- 560010

**Customer's Reference** : BBMP/EE/DD/WO/157/2017-18

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 30-07-18

**Sample ID No** : 2018-07-30-11 /03

**Sample Type** : Fine Aggregate

**Reference to BIS codes** : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

**Date of test** : 30-07-18

**Total weight taken** : 1000 grams

| Sl.no | Sieve Size | Weight Retained (gms) | Cumulative Weight Retained (gms) | % Cumulative Weight Retained | % Passing | Requirement as per IS 383:2016 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Grading Zone I | Grading Zone II | Grading Zone III | Grading Zone IV |
| 1 | 10 mm | 0 | 0 | 0.0 | 100.0 | 100 | 100 | 100 | 100 |
| 2 | 4.75 mm | 22 | 22 | 2.2 | 97.8 | 90-100 | 90-100 | 90-100 | 95-100 |
| 3 | 2.36 mm | 135 | 157 | 15.7 | 84.3 | 60-95 | 75-100 | 85-100 | 95-100 |
| 4 | 1.18 mm | 187 | 344 | 34.4 | 65.6 | 30-70 | 55-90 | 75-100 | 90-100 |
| 5 | 600 micron | 207 | 551 | 55.1 | 44.9 | 15-34 | 35-59 | 60-79 | 80-100 |
| 6 | 300 micron | 248 | 799 | 79.9 | 20.1 | 5-20 | 8-30 | 12-40 | 15-50 |
| 7 | 150 micron | 105 | 904 | 90.4 | 9.6 | 0-10 | 0-10 | 0-10 | 0-15 |
| 8 | Pan | 96 | 1000 | 100.0 | 0.0 | --- | --- | --- | --- |

**Result :The tested Sample Conforms to Grading Zone II**

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2018-08-06-08** **Date: 10/08/2018**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore

**Address** : Shettyhalli Sub Division, BBMP, Bangalore

**Project Name** : Improvements to main and cross roads at Babanna Layout back side area chikkasandra in Ward No. 12 Shettyhalli sub division.

**Agency** : Technical Manager (West), KRIDL,Project Implementation Unit, No.580, Sree Shivakumara Swamy Nilaya, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore- 560010

**Customer's Reference** : BBMP/EE/DD/WO/157/2017-18

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 06-08-18

**Sample ID No** : 2018-08-06-08 /03

**Customer ID** : M20 Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 10/08/2018

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | M20 Concrete | M20 | 03/08/2018 | 10/08/2018 | 149.34 X 150.88 X 151.50 | 22532 | 8.417 | 426.2 | 18.9 | 18.4 |
| 2 | M20 Concrete | M20 | 03/08/2018 | 10/08/2018 | 150.68 X 149.62 X 151.60 | 22546 | 8.167 | 410.4 | 18.2 | |
| 3 | M20 Concrete | M20 | 03/08/2018 | 10/08/2018 | 149.89 X 150.82 X 150.65 | 22606 | 8.069 | 412.0 | 18.2 | |

**Note:**

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CIVIL Pro Sig..... Date..... BANGALORE

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Authorized Signatory
**Quality Manager**


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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2018-08-06-08** **Date: 11/08/2018**

**Customer** : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore

**Address** : Shettyhalli Sub Division, BBMP, Bangalore

**Project Name** : Improvements to main and cross roads at Babanna Layout back side area chikkasandra in Ward No. 12 Shettyhalli sub division.

**Agency** : Technical Manager (West), KRIDL,Project Implementation Unit, No.580, Sree Shivakumara Swamy Nilaya, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore- 560010

**Customer's Reference** : BBMP/EE/DD/WO/157/2017-18

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 06-08-18

**Sample ID No** : 2018-08-06-08 /07

**Customer ID** : M20 Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 11/08/2018

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | M20 Concrete | M20 | 04/08/2018 | 11/08/2018 | 149.34 X 150.88 X 151.50 | 22532 | 8.417 | 426.2 | 18.9 | 18.4 |
| 2 | M20 Concrete | M20 | 04/08/2018 | 11/08/2018 | 150.68 X 149.62 X 151.60 | 22546 | 8.167 | 410.4 | 18.2 | |
| 3 | M20 Concrete | M20 | 04/08/2018 | 11/08/2018 | 149.89 X 150.82 X 150.65 | 22606 | 8.069 | 412.0 | 18.2 | |

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